

**Recent Weather Technologies Delivered to America's Space Program
by the Applied Meteorology Unit**

**William H. Bauman III
Winifred Crawford**

NASA Applied Meteorology Unit / ENSCO, Inc. / Cape Canaveral Air Force Station, Florida

The Applied Meteorology Unit (AMU) is a unique joint venture of NASA, the Air Force and the National Weather Service (NWS) and has been supporting the Space Program for nearly two decades. The AMU acts as a bridge between the meteorological research community and operational forecasters by developing, evaluating and transitioning new technology and techniques to improve weather support to spaceport operations at the Eastern Range (ER) and Kennedy Space Center. Its primary customers are the 45th Weather Squadron at Cape Canaveral Air Force Station (CCAFS), the Spaceflight Meteorology Group at Johnson Space Center and the National Weather Service Office in Melbourne, FL. Its products are used to support NASA's Shuttle and ELV programs as well as Department of Defense and commercial launches from the ER. Shuttle support includes landing sites beyond the ER.

The AMU is co-located with the Air Force operational forecasters at CCAFS to facilitate continuous two-way interaction between the AMU and its operational customers. It is operated under a NASA, Air Force, and NWS Memorandum of Understanding (MOU) by a competitively-selected contractor. The contract, which is funded and managed by NASA, provides five full time professionals with degrees in meteorology or related fields, some of whom also have operational experience. NASA provides a Ph.D.-level NASA civil service scientist as Chief of the AMU. The AMU is tasked by its customers through a unique, nationally recognized process. The tasks are limited to development, evaluation and operational transition of technology to improve weather support to spaceport operations and providing expert advice to the customers. The MOU expressly forbids using the AMU resources to conduct operations or do basic research.

The presentation will provide a brief overview of the AMU and how it is tasked by its customers to provide high priority products and services. The balance of the presentation will cover a sampling of products delivered over the last 18 years that are currently in operational use. Each example will describe the problem to be solved, the solution provided, and the operational benefits of implementing that solution.

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